Abstract
Almo Riparian Restoration Project

Carolyn Firth, Water Quality Resource Conservationist
Idaho Association of Soil Conservation Districts, Burley, Idaho
1361 East 16th, Burley, Idaho 83318
Phone: 208-678-1225
Fax: 208-677-2070
Email: carolyn.firth@id.usda.gov

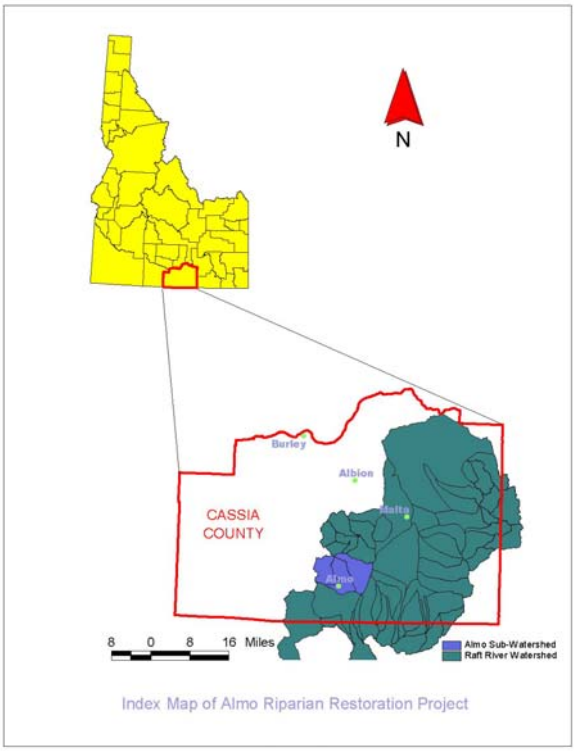
The Almo sub-basin portion of the Raft River Watershed is located in south-central Idaho in southern Cassia County (see index map). The southern boundary of the project area is about 5 miles north of the Idaho-Utah state line. A demonstration project to restore the riparian areas along sections of three tributaries to the Raft River, an EPA 303d listed stream was begun in the fall of 1999. The streams were characterized by wildly fluctuating flows, loss of wetlands, poor water quality due to high sediment and nutrient loads, incisement, and bank erosion. Funding for the project was provided by an EPA 319 grant and Clean Water 104 grant, the Raft River Flood Control District, and individual landowners. Technical assistance was provided by the Natural Resources Conservation Service, the Idaho Soil Conservation Commission, and the Idaho Association of Soil Conservation Districts.

Treatment consisted of installing loose rock drops, loose rock crossings, juniper tree revetments, rock riprap, and concrete diversion structures. Grass and willow cuttings were planted along stream banks and in disturbed areas to prevent erosion. The rock drops have helped stabilize the stream gradient, thereby reducing erosion. They have also created riffles and pools, thus enhancing fish habitat. Loose rock crossings allow for livestock and vehicles to access the stream without eroding the channel; the rocks protect the stream bottom by eliminating down cutting. The crossings are also functioning in a manner similar to drop structures. The tree revetments and rock riprap, installed on the outside of meander bends, have helped to prevent or eliminate sloughing of bank material, created a more rounded slope in many areas. Concrete diversion structures help prevent scouring of the stream channel, especially during periods of high runoff. Irrigation water management has been greatly enhanced by these structures. The project should be completed by the end of summer 2004.

Landowner satisfaction with the work done on the streams has been high. The water storage capacity of the riparian areas has been significantly increased as evidenced by the return of riparian vegetation and the presence of water during the late summer months. From a visual standpoint, water quality has improved (see photos). Monitoring of these streams is planned for the summer of 2004 or 2005. Results will be compared with monitoring done in 1999 prior to installation of best management practices.

7-28-99. The stream's vertical banks (above) result in excessive sediment load. Abundant algal growth and stagnant water indicate high temperature and high nutrient content. Lack of riparian vegetation prevents streambank storage of water.

7-26-02. The tree revetments shown below are functioning as designed. The banks are becoming stable and the floodplain is widening, resulting in increased streambank storage.



Index Map of Almo Riparian Restoration Project

Abstract submitted by Carolyn Firth, Water Quality Resource Conservationist for the Idaho Association of Soil Conservation Districts, Burley, Idaho field office. I have worked for IASCD since May 2002. My husband and I own and operate a farm northwest of Burley. Previous work experience includes geology instructor for the College of Southern Idaho and petroleum geologist for Northwest Pipeline Corporation.